The Chronicle of the EARLY AMERICAN INDUSTRIES ASSOCIATION

Published from time to time for the Information of its Members

Volume 1 **March, 1937** **Number 22**

Clay Tobacco Pipes

By WILLIAM B. SPRAGUE

[The capital letters, interspersed through the text, refer to the list of authorities at the end of the article.]

"Pipe clay" is a fine-grained, plastic (F), and tenacious (C, E) material, which will burn white (C, D). Before employing it in manufacture, it was necessary to sift it and free it from impurities (F, G), and to knead it by hand (A, B, F) or even to beat it with "a heavy wooden bar" (A).

In making clay pipes by hand, the first workman, usually a child (F), took a lump of the prepared clay, about the size of an apple (E), and sometimes one in each hand (A), and rolled them out on a table (A) or plank (F), until each had taken the general shape of a pipe (B, E, G), or, as one writer (A) expresses it, "a clay tadpole with a large head and a very long tail." Occasionally the bowl and the stem were formed separately and afterwards stuck together (F). They were then laid aside for a day or two to harden (G) and "get more consistence" (F).

To form the stem, the pipe maker used a tool, variously described as a "brass wire" (D), "iron wire" (B, F), or "fine steel rod" (A), "slightly enlarged near the end" (G), and equipped with a wooden handle (B, G). Having rubbed this with oil (D, F), he held the roughly formed roll of clay between the three fingers and thumb (G) of the left hand (F, G) and drew "the long slender tail of the tadpole on to the rod, the fine touch of the fingers indicating the position of the rod and preventing the protrusion of the point on either side" (A). One writer asserts that the clay was held in the right hand and the rod in the left (A).

"The spitted tadpole" (A) was then laid in the lower half of the mould (A, F, G), which had first been brushed or rubbed with oil (C, E), so that the pipe might be "smoothly delivered" (G). The moulds, according to the early writers, were of iron (B, F), brass (C, E, F), or copper (G), but all that the writer has seen appear to be lead or zinc, sometimes set in a wooden casing. One description is as follows: — "a folding brass or iron mould, channelled inside of the shape of the stem and the bowl, and being capable of being opened at the two ends. It is formed of two pieces, each hollowed out like a half-pipe, cut as it were lengthwise; and these two jaws, when brought together, constitute the exact space for making one pipe. There are small pins in one side of the mould, corresponding to holes in the other, which serve as guides for applying the two with precision" (F).

The next step was to bring the upper half of the mould down tightly upon that which held the clay (A, G), and to lock the mould in a "vise" (C), "clamp" (F), or "iron frame," equipped with nuts and screws (G). Some extant specimens of these vises are of wood, and are tightened by wooden screws. One authority (D) has it that the bowls only were formed in the moulds and later fixed to the stems. The moulds seen by the writer, above referred to, — and which, by the way, are not hinged, but in two separate parts — form only the bowl and a very short section of stem, but, judging by the shape, this was merely a socket provided for the insertion of a reed tube. See illustration.

The hollow of the bowl was then formed, first roughly with the finger (G), and afterwards by the pressure

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House Paint

By WILLIS H. ROPES

As one drives through the old towns of New England, and notes that the early homesteads rarely bear any evidence of paint, it is often remarked that the owners showed lack of judgment by not beautifying their homes and preserving them from decay. Most people do not realize how laborious and expensive it was, in those days, to prepare the material to paint houses.

We of the modern age are accustomed to going to a paint store and ordering paint in cans, selecting the desired color and shade from a printed sample list, or color chart.

The original method was to reduce lumps of pigment to powder by hand, using a slab of slate or marble called a "paint stone", and another stone, shaped like a small hay-stack and known as a "mulling stone". The lumps of red and yellow ochre, or brown umber, with some oil added to prevent the powder blowing off, were reduced to desired fineness, then scraped off into a pail, and the process repeated. Lamp black was added to darken the shades, and indigo and verdigris, (the green rust of copper) might be used to produce brighter colors. Naturally the exteriors of houses were neglected, as new clapboards or shingles, made by hand, could be put on more quickly and cheaply than a coating of pigment and oil.

It was long years after that white lead was manufactured in this country. Combined with colors, it made a permanent paint to preserve wood exteriors from leaks and decay. Copper paint was probably used quite early to protect the planking of vessels from barnacles and wood borers. It was imported long before it was produced here, and I imagine was freely used in the early ship yards, but the

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Clay Pipes

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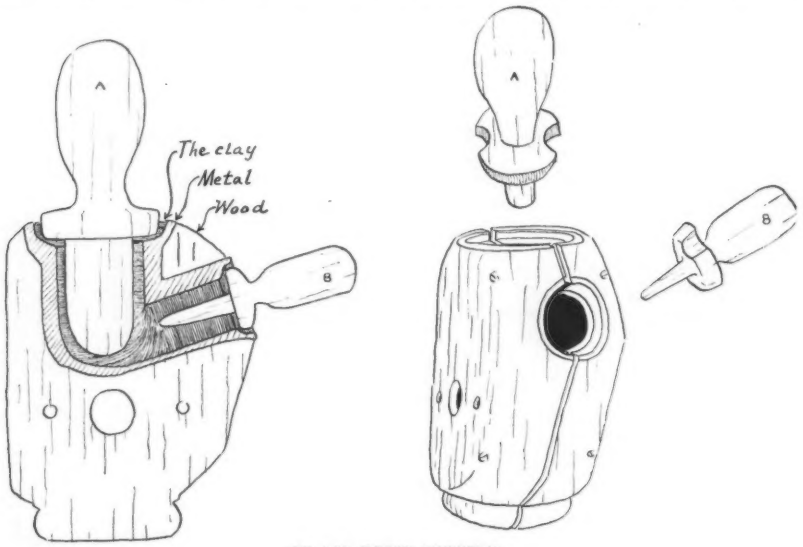
of a "stopper" (B, C, D) or "plug" (G). This might be described as acorn-shaped, or as a cone with convex sides, and corresponded in shape to the desired recess. It was fitted with a rim, which, by overlapping the edges of the bowl, limited the distance to which the point could penetrate, and hence regulated the depth of the hollow. In the rim there was cut a small aperture to permit the escape of the surplus clay. This stopper was also oiled before it was used (F). Ordinarily it was furnished merely with a convenient handle, but sometimes it was fixed in a frame, so that it could be forced down with a lever (F) or plunger. After the hollow had been thus completed, the wire in the stem was pushed on through until it touched the stopper (G), and then moved back and forth to completely clear the hole (F), although there was usually a small pellet of clay left, which had to be removed with "a little hook attached to the handle of the knife with which the pipe was to be finished" (G). The pipe was then withdrawn from the mould and the wire from the stem, which was blown through, to make sure the hole was not a "blind passage" (A), and the entire pipe then smoothed and finished by another workman with "a sharp steel instrument" (A), or "a small grooved iron tool" (G), after which it was polished with "a piece of hard wood" (F) or "grooved agate" (G), and any ornamentations in addition to those given by the mould produced by stamps and rollers (G). A workman and a child could easily turn out fifty gross of pipes in a day (F).

After drying for a few days (B, C, D), the finished pipes were placed in a kiln of highly specialized construction (A, D, E), of which the details are given by some of the writers (F, G), but are so technical and complicated that we hesitate to inflict them upon our readers. Suffice it to say that some fifty gross of pipes were arranged in it, with the bowls resting on horizontal ledges running around the sides and the stems leaning against a central pillar (A, F, G), and baked for eight or nine hours (F), after which they were sometimes glazed and polished with a cloth (E).

One writer (F) apparently thinks that they should never have been made at all. He says: "Some seek in the inhalation of tobacco-smoke a pleasurable narcotism; others imagine it to be beneficial to their health; but, in general, smoking is merely a dreamy resource against ennui, which ere long becomes an indispensable stimulus. The filthiness of this habit, the offensive odor which persons under its influence emit from their mouths and clothes, the stupor it too often occasions, as well as the sallow complexion, black or curious teeth, and impaired digestion, all prove the great consumption of tobacco to be akin in evil influence upon mankind to the use of ardent spirits."



CLAY PIPE MOULD

This mould is for forming a clay bowl to take a reed stem. The figure at the left shows half of the mould, with the reamers ("plugs" or "stoppers", see text) in place. The figure at the right shows the mould closed, and the detail of the reamers. Note the rims to regulate the depth to which they could enter and the notches to allow the escape of the surplus material.

AUTHORITIES

(A) *American Mechanical Dictionary*, by Edward H. Knight (Ford & Co., N. Y., 1874) p. 2584. (B) *Book of Trades* (Griffin, Glasgow, 1848) p. 78. (C) *Five Thousand Receipts in All the Useful and Domestic Arts* (MacKenzie, Kay, Phila., 1830) p. 371. (D) *American Family Encyclopedia*, by Webster & Parkes (Derby & Jackson, N. Y., 1859, copyright 1845) p. 320. (E) *The American Artist's Manual*, by James Cutbush (Johnson & Warner, Phila., 1814) fourth page of article on "Pottery" (no page numbers.) (F) *Dictionary of Arts, Manufactures and Mines*, by Andrew Ure (Appleton, N. Y., 1850) p. 1262. (G) *Cyclopedia of Useful Arts*, by Charles Tomlinson (Virtue & Son, London, 1852) Vol. II, p. 450.

Although the manufacture of gold beater's skin is usually referred to as a secret process (see CHRONICLE 11-2), Whittock's *Book of Trades* (1837) gives the following directions for its preparation: "The skin is gut of oxen, and the last or rectum, being the only straight part, is alone employed. The gut is first soaked in water a day, and then washed in weak solution of lime, slit open, and both surfaces scraped smooth and cleared of the extraneous matters found thereon. It is then stretched on a frame-work, ten inches clear, lapping over and adhering, by the strength of its own gelatine, to the former. Here the gut is suffered to dry gently, until as tight as a drum-head. The framed gut undergoes a dry brushing, and another damp one. When they are again dry and fit for use, the skins are cut out, and made up book fashion."

A calico printery was established at Boston, Mass., by George Leason and Thomas Webber, who advertised in the Boston *News Letter*, April 21st-28th, 1712, that they had "set up a Callender-Mill and Dye House in Cambridge Street, Boston, near the Bowling Green, where all gentlemen, Merchants, and others may have all sorts of Linnens, callicoes, stuffs or Silks Callendered: Prints all sorts of Linnens." — J. N. K.

Farm Implements of the 18th Century

(*Continued from Number 20*)

HOE, a well known instrument used in tillage. It is called by some writers the hand hoe to distinguish it from the horse hoe. Hoes are chiefly of two kinds, narrow and broad. The use of the narrow hoe is to break up spots of hard or tough ground, as the balks left by the plough in swarded land, or the corners of lots where the plough cannot conveniently reach; or to take up strong roots, such as those of the shrub oak, etc. Therefore, this tool must be made thick and strong, with a large eye, that it may admit a strong helve. It has also the name of a breaking up hoe; but it is seldom made to do the work of a plough in this country of late, unless by the poorest people and in new places where teams cannot be easily had. The broad hoe is a very important implement among farmers as it is much used, though not as much as it should be. The more mellow the land is, the larger the hoe should be, that the work may be done more expeditiously. The tough and hard soil requires a narrower hoe to render the labour more easy. Where land is not stony, hoes should be kept sharp by grinding. They will enter the ground the more easily and destroy weeds and their roots more effectually. For the ease of the labourer, hoes should be made as light as is consistent with the needful degree of strength: Their handles especially should be made of some light kind of wood, as ash, or white maple, or a young tree of spruce. For the *Horse Hoe*, see that article.

HORSE HOE, a kind of plough used in stirring the soil when a crop is growing on it. It does not essentially differ from a common horse plough, only in the different manner of connecting it to the horse. This is done by two arms or shafts, like those of a cart, fastened by screws to a short plank about three feet long and one foot broad; which plank is made fast to the fore end of the beam, which may be occasionally removed to the right or left, according as the hoeing may require the plough to pass nearer to or farther from the rows. This is less apt to injure the plants than a common harness. The advantage of this instrument above a horse plough is said to be principally the steadiness of its going, by which a furrow may be drawn very near to a row of plants without danger of injuring them. This was the opinion of Mr. Tull, the inventor. But as it cannot be so well governed by the handles as the common horse plough, the safety of the plants must chiefly depend upon the steadiness of a horse's going. I therefore prefer the horse plough, in the whole, for loosening the ground betwixt rows. It will answer, at least, every purpose of the horse hoe.

MATTOCK, a pickaxe. This is a useful instrument in sinking wells, digging trenches, ditches, &c.

MOULDBOARD, that part of a plough which turns over the furrow. For ploughing greensward an iron mouldboard is best: For if it be wood it ought to be plated with iron to prevent its being soon worn through. For ploughing in tillage land a wooden mouldboard will answer.

NAVE, the middle part of a wheel through which the axle passes. See *Wheels*.

PLOUGH, a machine with which the ground is turned up and broken. It is the most important of all the tools used in husbandry: And much of the comfort of the labourer, as well as the profit of the farmer, depends upon the good structure of it. The plough was so early invented that mention is made of it in some of the most ancient books, both sacred and profane. Numbers of them, however, have been so badly constructed as to be of little advantage. Omitting what has been said of the various kinds of ploughs, I perfectly agree with the writer of the *New System of Agriculture*, that two ploughs are all that are requisite in the common culture of land,a strong one and a light one. The strong plough is necessary in soils that are strongly swarded or very stiff; or filled with strong roots, stony, or rugged; in all other soils the light plough, or that which is commonly called the horse plough, will be sufficient. The strong plough, which should always be made of the strongest of white oak, should not be heavier than is necessary for strength. One of the handles should be framed into the chip and the beam into the handle; the other handle must be made fast to the groundwrest and mouldboard; and the handles should be so long that the plough may be guided by them without much exertion of strength. Otherwise the ploughman will find his labour to be very fatiguing. The shares should be made of tough iron, well steeled and sharpened on the point and wing, and rightly tempered. The coulter should also be steeled on the edge and be frequently made sharp by grinding when used in swarded ground that is not stony. This will render the draught the more easy, especially where there are strong roots in the soil which must be cut off by the coulter. The plough will not only be the more easily drawn and less apt to choke with roots and rubbish, but will cut the furrow more evenly. The coulter should be inserted into the share six inches at least from the point for land that has no impenetrable roots, but where such roots abound, the point of the share should be inserted into the back of the coulter very near to the bottom. The coulter should always lean backwards between the share and the beam and be bent under the beam so as to pass through it at right angles. Everyone knows that the chip and the groundwrest should be plated with iron on two of their sides. Otherwise they will soon wear away. In some parts of this country ploughs are tolerably well constructed; in other parts so badly as to occasion the loss of much time and labour. But for those strong ploughs which are accounted the best I would suggest two or three improvements. One is that the sock or socket of the share should be so made as to receive a chip five inches thick or deep and that the chip be answerably thick at the fore end where it enters the sock and the sock should be large enough to receive it. By means of this construction, the furrow begins to cant as soon as it is cut through by the coulter. Therefore, the mouldboard takes it already turning, so that it meets with little resistance; consequently, it requires less strength of team by half, as some say, to draw the plough. The labour of the ploughman is also diminished, as the plough is more easy in its going. The late *Robert Pierpoint*, Esq., of *Roxbury*, was possessed of a plough of this make, the original of which came not long since from England. His family will doubtless be ready to oblige any person with a view of it. That gentleman once told me that with his plough he had broken up the hardest green sward ground with only a yoke of steers four years old to draw it. Another improvement that I would suggest is to have an iron plate, rightly shaped, instead of a mouldboard; either riveted to the share or a continuation of it. Every ploughman knows that the greatest part of the

trouble of his work arises from the furring up and clogging of the plough by the earth's cleaving to it and particularly to the mouldboard. And it is plain that this not only hurts the regular going of a plough, but makes it harder to draw and causes it to have the less effect in turning and pulverising the soil. But a plate of iron in place of the mouldboard would always be smooth and bright and glide easily through the soil in swarded ground, and the plough would be far more easily managed. It is the opinion of the above mentioned writer that with a plough of this kind rightly constructed, there can never be need of more than one yoke of oxen to plough in the hardest soil. If two yoke would be sufficient for our hardest land in this country, much would be saved by such a plough. And of this I think there is little reason to doubt. I will just mention one thing more, which some will allow to be a considerable improvement. Instead of wheels to a plough, which are now generally reprobated, let a little roller be fixed to the fore end of the beam in such a manner as to move upon the surface. It should be four or five inches in diameter and as much in length, and be connected with the beam by an iron rightly shaped for the purpose, which can be easily put on and off at pleasure. It is to be used only in ploughing green sward ground and such as is pretty level and clear of obstacles. It gauges the plough so as to prevent its going too deep and it compresses the surface so that the coulter cuts it more evenly. Besides, it is manifest that this will ease the ploughman of part of his labour. But whether this be thought of importance enough to be attended to or not, the iron plate for a mouldboard, I think, can admit of no doubt concerning its utility. The cost of it will be the only objection, but this is of no weight. The extra cost will certainly be saved in the work of a few days, as the plough may be drawn with a weaker team, turn over the soil more completely, and perhaps save the hiring of a man to tend the plough and turn turfs. It should be remembered that a wooden mouldboard ought to be plated, which if well done may cost half as much as an iron mouldboard and will much sooner come to need repairing. The bloomers who make what are called share moulds should draw the plate about four feet long; the hinder part, which is to be for the mouldboard, not more than one-fourth or fifth of an inch thick; the part that is for the share, of the usual thickness. With such a piece of iron, any ingenious smith can make the share and mouldboard in one piece. The light plough may be made every way like the former, but smaller; but a roller to this plough is not a requisite, and a wooden mouldboard will answer, if properly plated with iron. As the handles of ploughs should be crooked, especially at the outer ends, a small stadle quartered, together with a part of the root, is the best timber that I know of for this purpose. While they are green they may be soaked in hot water and bent into the right shape. If dried in this shape, they will always retain it, though ever so much afterwards exposed to the weather.

(*Continued in next issue*)

Paint

(*Continued from page* 1, *column* 3)

painting of houses, except for the rich, was not common until white lead was readily available. Then house painters became more numerous. Even then it was a slow process, for, after the mulling and paint stones were discarded, a mill to grind paint, resembling a big coffee mill, was used. This had a large open hopper, flat grinding discs instead of corrugated ones, and as the color was ground with oil, it dropped from a side spout into a receptacle beneath it. Then white lead and linseed oil were added and thoroughly mixed by hand to proper thinness, and, for the first time, a handsome, even, protective coating was applied to houses, and painting soon became a general custom. Keen judgment and practice was required to obtain the desired tints, and even then, it was difficult to match them for future needs. Probably few people know how white lead is made. The Encyclopedia Brittanica gives the following information: "By the old Dutch method, pieces of sheet lead were suspended in large stone-ware pots, so as to occupy the upper part of two thirds of the vessel. A little vinegar was poured in each pot. They were covered with sheets of lead, buried in horse manure or spent tanbark and left to corrode for a month. By that time the plates were converted into flakes of white lead, which was then knocked off, ground in water, freed from all bits of metal by elimination and the paste allowed to set and dry in small conical forms. * * * *White lead is the commonest of bases for paint. When pure it consists of 75% of carbonate of lead and 25% of lead hydrate. It is mixed with 6 or 7% by weight, of pure linseed oil and in this form is supplied to the painter. Oil paints are made up of four parts; the base, the vehicle, the solvent and the drier. Pigments may be added to obtain a paint of any desired color.

Before the common use of white lead paint, very little indoor decorating was done, but plastered ceilings were whitewashed and doors were beautified by graining, a process which required much skill and taste in producing elaborate swirls and patterns, with thin, fine, long-bristled, flat brushes.

Salem has had, in the past century, two large white lead factories, but the business was given up and diverted elsewhere many years ago. From Volume 9 of the Essex Institute Historical Collections, I quote the following: "Col. Francis Peabody commenced the white lead business about 1826 in South Salem. In 1830, he bought the Wyman (grist) Mills now known as 'Forest River Mills', which was sold to the Forest River Lead Co. in 1843. Mr. Peabody carried on the lead business, until the latter date, and manufactured, very extensively, white lead, sheet lead and lead pipe. In 1837, he built the linseed oil mills of Middleton (close to Ipswich River). There was only one other linseed oil mill in this section, the Stearns Mill at Medford, Mass."

John W. Masury, of Salem, born in 1847, is said to have been the first man to prepare paint for general purposes, using fixed formulas, varied colors and tints, and (about 1872) putting it in sealed cans, ready for use without adding anything, unless a drier was needed. As we know, this became virtually the only method of handling and selling paint. Masury Paint is still manufactured in Brooklyn by later generations of the same name. His idea has been copied by numberless manufacturers with variations, but the principle is the same, canned paint in all colors for all general purposes. Just as the paint and mulling stones were first used to powder pigments, the same method was used by apothecaries to grind drugs and the pills were rolled by hand. Now we buy tablets in bottles, carefully protected from deterioration.

Early American Industries Association

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Communications should be addressed as follows: Pertaining to the *contents* of THE CHRONICLE, to W. B. Sprague. Applications for membership, to S. E. Gage. Suggestions of prospective members, to Howard G. Hubbard. Other matters to Burton A. Kollmer. Addresses as above.

This issue was printed by Leon S. Case Flushing, N. Y.

W. B. SPRAGUE, *Editor.*

Our Purpose

The purpose of the association is to encourage the study and better understanding of early American industry, in the home, in the shop, on the farm, and on the sea, and especially to discover, identify, classify, preserve and exhibit obsolete tools, implements, utensils, instruments, vehicles, appliances and mechanical devices used by American craftsmen, farmers, housewives, mariners, professional men and other workers.

Dues

The annual dues are one dollar, payable September first, for the year immediately ensuing. *The Chronicle* for the current year is sent to all members without additional charge. Back numbers (except Nos. 6, 10, 11 and 12) may be secured from the Treasurer for 20c each. For further information, address any of the officers.

The Questionnaire

Questionnaires received since our No. 21 went to press have been tabulated as follows (for KEY, see No. 21):

CONNECTICUT

Bristol: Edward Ingraham, 226 Grove St. (C). Interested in clock catalogues. Wants LP.

Greenwich: Hasbrouck Haynes (C), 282 Overlook Drive. Collects LD, MA, SI, TC, WH, WM. Wants LP. Write *. Visit.

ILLINOIS

Chicago: Douglas C. McMurtrie, 2039 Lewis St. Interested in printing equipment.

Chicago: Museum of Science and Industry (Russell H. Anderson), 57th St. and Lake Michigan. Exhibits FI, FT, KH, LD, MA, TC, VE, WM. Write (museums and historical societies only).

MASSACHUSETTS

Ashburnham: Walter C. White, Jr., White House Hobby Shop (C & D). Collects historical firearms. Wants LP. Write*. Visit.

Rowley: Mrs. Rosa M. Blodgette (D), Center St. Has small stock of industrial material.

Wellesley: Mrs. Enid L. Fairbairn (C), 18 Upland Road. Collects KH, LD, TC, also spinning, weaving and textile-making equipment. Is available for lectures. Offers Barlow jack-knife, small cheese press, sugar cutters, KH. Wants LP. Write *. Visit.

Weymouth: Arthur H. Hayward (C), 444 Commercial St. Collects KH, LD. Wants LP. Write. Visit.

NEW JERSEY

Afton: Marshall G. Hill (C), Afton Inn. Collects FT, KH, LD, TA, TC, also traps and measuring devices. Offers wig-wag churn, flax brake, flax wheels, cheese press, KH. Visit.

Freehold: Miss Edna M. Netter (D), P. O. Box 325. Deals in KH, SM, TC. Wants LP.

Montclair: Mrs. Edith C. Goodwin, 201 Claremont Ave. Represents the Index of American Design, Federal Art Project, Newark, N. J. Wants loan of lighting devices, household utensils, etc., to be drawn by staff artists and published by the Government.

Montclair: Montclair Public Library (Miss Gladys Segar). Wants all possible information on early American industries.

Plainfield: C. Carroll Palmer (C & D), 321 West Front St. Collects TC, Specializes in carpenters and cabinetmaker's tools. Wants pit saw and LP, also Nos. 1 to 12 of THE CHRONICLE. Offers TC. Write *. Visit.

NEW YORK

Ilion: Mrs. Carroll Edsall (C), 421 Otsego St. Collects spinning and weaving equipment, and conducts a studio of hand weaving. Wants LP, especially *Domestic and Manufacturer's Assistant in the Arts of Spinning and Weaving*, by J. and R. Bronson, published by Williams, Utica, N. Y. (1817). Write *. Visit.

New York: Will Walter Jackson (C), 175 E. 60th St. Collects Franklin stoves and fireplace accessories. Wants LP, Write*.

New York: George C. Robinson, c/o Vernon Bros. and Co., 66 Duane St. Wants blacksmith's tools, especially those used in making hand-forged nails, also LP. Write *.

New York: Miss Hanna Tachau (C), 67 W. 94th St. Collects miniature and juvenile books, published before 1830, relating to industries and all phases of American life. Write *. Visit.

Saratoga Springs: Miss Harriett Brownell (C), 21 W. Circular St. Collects tools of the home crafts, especially those which pertain to spinning, weaving, embroidery, knitting, lace-making, etc., also patterns and designs. Wants LP, especially old note books, containing patterns, designs and recipes for home crafts. Write *. Visit.

PENNSYLVANIA

Lansdale: Frank M. Weaver (D), Main St. and Valley Forge Road. Deals in FI, FT, HD, HF, KH, LD, MA, SM, TA, TC, VE, WM.

Richlandtown: Rudolf P. Hommel (C), "Gargoyle". Collects HD, KH, LD, TC. Wants LP. Write *. Visit (Route 212, between Richlandtown and Pleasant Valley).

RHODE ISLAND

Rumford: Dr. Philip Batchelder (C), 106 Greenwood Ave. Collects writing desk equipment, ink wells, sanders, quills, etc., also stereoscopic pictures and stereoscopes (hand viewers or cabinets) before 1900. Wants LP. Write *. Visit.

Candle Making

"Candles are made by two methods: the first and most ancient is *the dip*, the origin whereof hides its head in the clouds of antiquity. The method of casting candles *in moulds* is of modern invention, being ascribed to Mr. *Lebrege*, a manufacturer at Paris, early in the eighteenth century. To make the dips, the cotton wicks are disposed in numerous rows upon sticks, suspended aloft over the *vat*. The dipper then bends down several broaches of sticks into the liquid fat below, gently raises these up, and proceeds with others, alternately, until *the making* assumes the required size and weight. Moulds are made in pewter or tin cylinders, the shape of the desired candle, supported inversely in a wooden frame. Seeing the advantages now possessed by the Glassmaker, and those others which he expects, we entertain hopes that the cylinders may hereafter be formed of that material — as was formerly the case. Each of those cylinders is furnished with a wick, stretched through its centre, and the melted tallow, of the best quality, only, being poured in, soon cools and sets, and the making may then be pronounced complete. *Rushlights*, as the name imports, are made of rushes, split, instead of cotton wicks, and while the excise impost lasted, were exempt from taxation. So were they also made by cottagers and small farmers, for domestic uses, and are supposed to be the *aborigines* of the art of candle-making." — Whittock's *Trades* (1837).

General Benjamin Franklin Butler manufactured the first American bunting at Lowell, Mass., in 1867.—J.N.K.

The Chronicle

Stereoscopes

From Mr. Lawrence B. Romaine:

"I am sending you a picture of what I call the 'grandfather of the stereoscope,' although I perhaps use the term inadvisedly. I am not sure whether my instrument was the father or the grandfather. I have never seen but two specimens and the owners could remember nothing except that they had been 'kicking around in the attic for years.' The instrument is made up of three delicately turned maple parts; the round flat base, the spindle or pedestal and the double frame for the bulls eye and mirror. The pedestal

MAGNIFIER

screws into the base, and the mirror and bulls eye frame slides into the pedestal, which has a wood screw to hold it fast. I neglected to mention that the double frame is hinged at the top. To use this unusual gadget, one holds the mirror off from the bulls eye at an angle of about 45 degrees and places the print or pretty picture underneath. Looking through the bulls eye, the print can be moved around until centered, and then the effect is quite startling. The print stands out as in the stereoscope and the scene unfolds in perspective. If only my mirror had withstood the ravages of time better, I could thrill far more easily but the old glass is pretty poor now. If any member has one or has seen others and can date them, I would appreciate hearing from him."

Dr. Philip Batchelder, a specialist in stereoscopes, to whom we referred the above, replies as follows: "While I have never seen a device just like the one described and pictured by Mr. Romaine, it appears to be a simple large magnifying glass mounted in a rather unique manner. A picture viewed with a magnifier does seem to make the pictured scene more real, but fundamentally it has very little to do with the stereoscope. However, many of the old stereoscopic viewing devices, particularly those of European manufacture, had a large magnifier incorporated in them in addition to the double lenses of the stereoscope proper. The normal person, viewing a scene, can include a field of view from side to side of from 50° to 60°, without conscious effort or strain of the eye muscles. The usual photographic lens also embraces that same 50°-60° angle of view, and naturally the resulting photograph does too. Now if the process is reversed, and the eye takes the place of the lens and the print takes the place of the film, the scene would be recreated in its apparent natural size. The distance between lens and film in most cameras is but a few inches; much too close for the eye to focus sharply. In order to see the picture clearly it has to be moved away from the eye, often to more than double the original distance. Thus the angle of view is reduced one-half or more. If we now interpose between the eye and print a simple magnifier, which has the effect of enlarging the photograph, we again increase our angle of view to normal and the scene appears almost real. The foregoing applies equally to a person with one or two eyes. The joys of the stereoscope, however, are limited to those who have two eyes. Stereoscopic vision, or the ability to recognize depth, depends on the fact that each eye sees a slightly different picture, because of the separation of the eyes. These two pictures are fused in the brain to form a third impression which has depth, a property which neither one alone has. If we take two pictures with a camera having two lenses separated as the eyes are separated, and view the right picture with the right eye, and the left with the left eye, we sense the same solidity of depth which was in the original scene. As described above, when viewing the prints, lenses are usually desirable to

STEREOSCOPE

obtain sharp images at a close distance and to enhance the effect of reality, but stereoscopic viewing is possible without lenses. Wheatstone, who invented the stereoscope in 1838, used mirrors to bring the images together. It would seem that the magnifier described is neither the father nor the grandfather of the stereoscope; but is distantly related, — perhaps a cousin. I enclose a picture of a true type of stereoscope."

Ralph Edwards, of the South Kensington Museum, England, says, "Latten to the lay mind is somewhat mysterious—there are few who could say, offhand, of what it is composed. It is usually thought of as akin to brass, but without its lustre. Yet it was once a synonym for brightness, Chaucer compares it with the sun. 'Phoebus (s)howed like laton — shone as the burned gold.'" Probably latten, being an alloy, varied in composition in different times and places. In addition to copper and zinc,—the usual components of brass,—lead may have been added, which would prevent its taking a high polish, as a high lead content does in old pewter.—L. L. T.

The first printing press in America was established in Mexico City in 1539. Several other presses in Spanish America followed, but it was almost a century later before the earliest press in an English colony was set up, — that of Stephen Daye at Cambridge, Massachusetts, in 1638.

—A. E. L.

Early American Industries Association

Membership

Membership lists should be amended as follows: (N) indicates new member; (S) indicates non-member subscriber; (Ch) indicates change of address; (D) indicates decease.

CONNECTICUT

Bantam: Arnold, Carrington G. (Ch. from New York, N. Y.)
Guilford: Goss, George A., Jr., Duck Holes Farm (N)
Litchfield: Vanderpool, Mrs. John A. (Ch. to New York, N. Y.)
New Haven: Whitlock, C. E. H. (Ch. to 7 Broadway)
West Redding: Burlingame, Roger (N)
Westport: Hill, Frederick, 18 Compo Road (Ch. from Mattapoisett, Mass.)

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Montclair: Goodwin, Mrs. E. C., 201 Claremont Ave. (N); Segar, Miss Gladys, Montclair Public Library (N)
New Vernon: Bayne, Mrs. Howard (N)

NEW YORK

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New York: Arnold, Carrington G. (Ch. to Bantam, Conn.); Britton, William R., 120 Broadway (N); Endicott, R. R., 315 E. 51st St. (N); Hall, H. D., 515 E. 86th St. (N); Harrison, John T. (Ch. to 1 East End Ave.); Hatch, John D. (Ch. to 40 E. 49th St.); Hunt, Clinton, 120 Broadway (N); Jackson, Will Walter, 175 E. 60th St. (N); Keillor, James A. (Ch. to White Plains, N. Y.); Pell, S. H. P. (Ch. to 1115 5th Ave.); Perkins, Miss Elizabeth, 863 Park Ave. (N); Sherwood, Howard, 1220 Park Ave. (Ch. from East Setauket, N. Y.); Vanderpool, Mrs. John, 22 Gramercy Park (Ch. from Litchfield, Conn.)
Rochester: Rochester Public Library (S)
Staten Island: Vreeland, Fred, 419 College Ave., Westerleigh (N)
Water Mill: Foster, Charles B. (D)
West Hempstead: Williams, Mrs. R. H., 27 Stratford Road (N)
White Plains: Keillor, James A., 3 Ridgeview Ave. (Ch. from New York, N. Y.)

PENNSYLANIA

Philadelphia: Drexel Institute Library (S)
Pittsburgh: Kline, Dr. Florence (Ch. to 551 Medical Arts Bldg.)

An English Diderot?

We have recently been shown three pictures, which indicate the existence of an extremely important treatise on English industries of the latter part of the 18th century, — possibly comparable to Diderot's great French work, — of which we have not before, after nine years of research, found the slightest trace. The Science-Technology Division of the New York Public Library was not able to identify them, and if the Library has the book, its general index certainly does not point the way to it. Each of the pictures is a steel engraving on a sheet, obviously torn from a book, the pages being ten by sixteen inches, and the impression from the plate slightly smaller. Above each plate, in clear *English* script appears the legend: "Engraved for the Supplement", and below: "Printed for F. Hinton in Newgate Street". The numbers of the plates are in the upper left corners, and the titles at the upper right. Plate XIX is entitled "Dye-house", and shows one general scene. Plate XXVII is called "Hat", and contains three views of different stages of hatmaking. We have seen this last picture reproduced in some industrial encyclopedia of the 19th century, but have no reference to it at hand, although we are quite certain that the original source was not given. Plate XXXIX, with three views illustrating "Rope-making" is copied from Diderot. In each of the pictures, the workmen and implements are numbered or lettered, obviously to correspond to references in the text. Any work of this kind, certainly containing at least thirty-nine illustrations of such excellence and undoubtedly full explanations of them, would be of inestimable reference value.

In response to our inquiry, Mr. Horace M. Mann, Curator of the Bucks County Historical Society, writes as follows: "We have a copy of the cut labelled 'Hat', exactly as you describe it, with this information in our catalogue, 'Engraving — Felt hat making about 1750. Plate extracted from an unknown English magazine, encyclopedia or book, c. 1750-80. Bought from J. H. Seers, 25 Abbott's Park Road, Leyton, Essex, England. Received August 10, 1921.' We do not have the cuts, 'Dye-house' or 'Rope-making'. I recall Dr. Mercer saying, at the time the print was sent over to the museum, that he regretted that he could not locate the whole edition, as he thought it would be very valuable for us to have. I do not think he ever identified the publication." Mr. Mann very kindly undertook to make further inquiry of the Newcomen Society of London. Their suggestion was that the pictures might have been taken from the *Universal Magazine of Knowledge*, for which Hinton engraved some plates, but the New York Library has a file of this magazine, and that is not the source. If anyone can help in this search, he will be doing a real service to the Association and materially advancing its purposes.

Pattens and Clogs

"Although once a trade of so much importance as to receive incorporation from the King (Charles II), in 1670, it is now dwindling down daily, the clog and *paraboue* taking its place; so do the former Patten-makers become mere Clog-makers in towns, where the old patten, with its iron ring, is less indispensable than in the rural districts. The trade consists in adapting a piece of wood to the shape of the sole of the wearer's shoes, and fastening ears, or *patten ties*, to each side of the instep; the difference between a clog and a patten being principally denoted by the latter having an iron at the bottom, the former has not. This is a very poor trade, unless the workman is an adept at fitting ill-formed feet with the toe-covered clog, and then he may earn some thirty shillings a week, beside the rent of his shop, which ought to be in some visible situation. In Scotland, they put on an affectation of surprise at the sight of a woman from England, wearing pattens; but, with as little reason as they of the South should express astonishment at seeing a Scots lassie threading the mazes of a church pathway with bare feet." — Whittock's *Trades* (1837).

COMMUNICATIONS

From Rev. C. F. Luther:

"I recall having seen in some local paper the following choice production:

'This little verse so short and solemn,
Is just put in to fill the column.'

No small amount of newspaper stuff would doubtless qualify in this category. That would not be true of the final item in the November Chronicle relating to the term 'wainscot'. Incidentally it opens a door into the workshop where words were manufactured. ('There are cases in which more knowledge of more value may be conveyed by the history of a word than by the history of a campaign,' wrote Coleridge.) Etymologically of course, the word is related to the old Saxon *'wain'* meaning a wagon or vehicle. And back of that is the Dutch *'wagen'* plus *'schot'* oak, giving 'wagon-oak', that is, the very best and toughest. The common name is Turkey oak, *quercus Cerris.* My particular interest in the item and the early use of the word lies in the fact that the term was applied to some of the chests made here in the Connecticut Valley, of which I have had something to say elsewhere. Two Hadley chests at least are so described in inventories of the 18th century, two deriving from the town of Sunderland, where the term appears to have been in current usage. The Elisabeth Allis chest (No. 4, *The Hadley Chest*) is described as 'a wainscot chest' and is valued at £1-5/. The Mary Russell chest (No. 67) is in the inventory of 1728 as 'a wainscot chest'. This was valued somewhat higher at £2-8/. This is the earliest attempt to give a distinctive name to the Hadley chests, which had to wait for Mr. Erving to christen them in 1883. The suggestion came of course, from the paneling, as in the true wainscot. Some of the fine old houses of the Valley still preserve the beautiful paneling of the late 17th and early 18th centuries."

From Mr. Penrose R. Hoopes:

"The description of the Clover Header in No. 21 of The Chronicle was copied by Cutbush from Vol. 2, page 149, of *Willich's Domestic Encyclopaedia* (Phila., 1803). This work, in five volumes, is an important source for illustrations and descriptions of farm and household equipment. Cutbush derived most of his material on these subjects from it. To the present day collector of farm implements it should prove invaluable."

From Mr. L. L. Thwing

"The Salem Gazette, in 1798, carried the advertisement of Peter Cliff, *whitesmith.* Among other things, he made iron fence, lamp irons, and turning in wood, iron and brass. Just what was a whitesmith?"

(There was a brief note on the whitesmith in The Chronicle, No. 4, page 7. Taylor's *Scenes of Wealth* (1826) says: "Iron articles of a neater and more delicate formation (than horseshoes, plough shares, etc.) depend more on the file than on the forge, and belong to the whitesmith: such as locks, keys, files, carpenter's tools, etc." Rivington's *Book of Trades* (1827) says: *"Whitesmiths"* or *brightsmiths* polish their work to a considerable degree of nicety; some include in their business bell-hanging, which is now carried to great perfection; others are chiefly employed in the manufacture of locks and keys." According to Webster and Parkes *Encyclopedia* (1859), "The whitesmith makes and furnishes articles of iron and steel, that are to have a bright surface, by means of the file and turning lathe; to him, also belongs the making and repairing of locks, bell-hanging, etc. * * * Most of the articles made by the whitesmith are purchased from the iron-monger." Whittock's *Complete Book of Trades* (1837) says: "Those who file their works acquire the distinction of being *Brightsmiths,* vulgarly *Whitesmiths.*" —Ed.)

Mr. R. P. Hommel sends us the following from *Notes and Queries* (a London periodical) Vol. 172 (1937), p. 73:

"The gradual disappearance of old handicrafts from our villages being with so many lovers of country life a matter of sorrowful regret, any descriptions of them at firsthand are certain to find a welcome. We should put the late George Sturt's 'The Wheelwright's Shop' among the books for which some special gratitude is due to the Cambridge University Press; and we were therefore rejoiced to see that they are bringing out this summer 'The Carpenter's Shop,' by Mr. Walter Rose. The author is a master carpenter, son and grandson of master carpenters, and he describes village carpentry as it was carried on in Buckinghamshire by his family and the men they employed in Victoria's day."

From Mr. A. Sheldon Pennoyer:

"Mr. Romaine's article on weather vanes in the last Chronicle interested me very much, for I have the locomotive shown in the broadside. A picture of it was run in *Railroad Stories* for May, 1934, with the request for information, which brought out the fact that two of them were made by Cushing and White, of Waltham, Mass., in a little shop off Fellow Street, near the main Waltham station. One of them was purchased by Mr. Leland Wood, of Hudson, Mass., in 1928, at which time I also bought mine. Mr. Charles W. Cushing, the son of the maker, was 79 years old at the time, and told of his father having made two of them for stock about 1871, but he was never able to sell them. They stayed in the attic of the shop for 57 years before they were again thought of. The price asked for these locomotive vanes in 1871 was $200. All the remaining vanes of the maker were sold a few years ago. I think it quite probable that Harris & Co. handled these products. I believe that a locomotive weather vane is a real rarity and that not many of them were made for stock, hence that Harris may have been Cushing and White's agent or distributor in Boston. My vane has excellent proportion and detail, which is important to a railroad collector as I am, though a headlight had to be added to both the known specimens."

From Mr. T. H. Peterson:

"In Chronicle No. 4, there is described a circular ring scale with two hooks, one for light weights and the other for heavy. I have been told that, years ago, a fish peddler was using one here (Suffern, N. Y.). I have one and did have another. I have been told that this style of scale is often found in Ireland."

Whittock's *Book of Trades* (1837) describes auctioning "by the candle" as follows: "After the lot has been described, the auctioneer lights an inch of candle, which is placed before the company, and declares that he can only take the biddings while the candle burns. At first the bidding goes on slowly; but as the flame is about to go out, they become more rapid. If two persons bid the same sum at the moment the candle goes out, the lot is put up at that sum, and an advance must be made upon it before either can be declared to be the purchaser."